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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,402	06/25/2003	James N. Buttrick JR.	BO1 - 0187US	5644

60483 7590 11/06/2006

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EXAMINER

TALBOT, MICHAEL

ART UNIT	PAPER NUMBER
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3722

DATE MAILED: 11/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/606,402

Applicant(s) ^{NT}

BUTTRICK, JAMES N.

Examiner

Michael W. Talbot

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 August 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>06/28/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 03 August 2006 has been entered.

Claim Objections

2. Claims 1 and 13 are objected to because of the following informalities:

Refer to claim 1, lines 13 and 14, the two occurrences of the character reference "drive member" should be changed so as to read --at least one drive member--.

Refer to claim 13, lines 20 and 21, the two occurrences of the character reference "drive member" should be changed so as to read --at least one drive member--.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over York '814 in view of Ellerstein '942. York '814 shows in Figure 1 an apparatus (10) comprising a base member (22) having a first aperture/annular portion (at base of 32) disposed there through, a drive platform (24) being spaced apart from the base member by a separation distance and having a second aperture/annular portion (at 32) disposed there through and approximately

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aligned with the first aperture along an axis, a plurality of guide members (18,20) extending between the drive platform and base member wherein at least one of the drive platform and the base member is moveable along guide members to changed the separation distance (col. 2, lines 26-31), at least one drive member (32) coupled between the drive platform and the base member, and a servo motor (36 and col. 2, lines 43-45) to move the drive member causing a varying separation distance. York '814 shows the plurality of guide members and the at least one drive member being distributed around the first and second apertures. York '814 shows a tool assembly (34) coupled to the drive member (48,54). York '814 lacks the plurality of guide members and the at least one drive member being distributed concentrically around a perimeter of the first and second apertures.

Ellerstein '942 shows in Figure 1-4 an apparatus (10) comprising a base member (24) having a first aperture (26) disposed there through, a drive platform (17) being spaced apart from the base member by a separation distance and having a second aperture (at 13) disposed there through and approximately aligned with the first aperture along an axis, and a plurality of guide members (21) distributed concentrically around the perimeter of the first and second apertures. In view of this teaching of Ellerstein '942, it would have been obvious to one of ordinary skill in the art to modify the distribution of the plurality of guide members and the at least one drive member of York '814 to be oriented concentrically around a perimeter of the apertures as taught by Ellerstein '942 to improve the stability of the drilling apparatus by eliminate canting and/or adverse horizontal movement of the drilling apparatus during operation, thus improve the overall drilling efficiency and reducing adverse wear.

5. Claims 4-6 and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over York '814 in view of Ellerstein '942, further in view of Orrell et al. '897. York '814 in view of

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Ellerstein '942 lacks the specific details of the tool assembly, relative to the servomotor, the controller, the speed sensor and at least one rare earth magnet.

Orrell et al. '897 shows in Figure 8 a motor shaft (112), an armature winding (120) disposed about at least a portion of the motor shaft and a field assembly (earth magnets) positioned proximate the armature windings (col. 5, line 67 through col. 6, line 9). Orrell et al. '897 further shows a controller (142) and a speed sensor (138) coupled to the servomotor and adapted to receive and transmit signals to the servo motor (col. 6, lines 10-42). In view of this teaching of Orrell et al. '897, it would have been obvious to one skilled in the art to substitute the servo motor of York '814 in view of Ellerstein '942 with the specific computer controlled servo motor as taught by Orrell et al. '897 to achieve enhanced control over the drilling function.

With regards to claim 9, Examiner had taken "Official Notice" that it is well-known in the art to utilize a standard drill collet to secure a drill member. Applicant did not challenge the "Official Notice" taken by the Examiner. Therefore the Applicant is deemed to have admitted to and agreed with the Examiner, and the "Official Notice" has been considered as prior art.

6. Claims 7 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over York '814 in view of Ellerstein '942 in view of Orrell et al. '897, further in view of Kostrzewski '948. York '814 in view of Ellerstein '942 in view of Orrell et al. '897 lacks the motor shaft including a lubrication reservoir coupled at a first end and a lubrication channel extending internally there through.

Kostrzewski '948 shows in Figure 1 a lubrication reservoir (22,24) at a first end and a hollow shaft (14) forming a lubrication channel. In view of this teaching of Kostrzewski '948, it would have been obvious to one skilled in the art to provide a motor shaft lubrication system of Kostrzewski '948 to the motor shaft of York '814 in view of Ellerstein '942 in view of Orrell et al.

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'897 to provide a means to transport debris away from the cutting tool end during operation and to provide cooling which ultimately prolongs the tool life.

7. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over York '814 in view of Ellerstein '942, further in view of Brown et al. '889. York '814 in view of Ellerstein '942 lacks the drive member being specifically a ball screw member.

Brown et al. '889 shows in Figures 5 and 6 the fluid operated cylinders (124) responsible for adjusting the base member (128) relative to the drive platform (64) can be one of a ball screw mechanism (col. 7, lines 19-25). In view of this teaching of Brown et al. '889, it would have been obvious to one skilled in the art to substitute the feed screw drive mechanism (32) of York '814 in view of Ellerstein '942 with the ball screw mechanism of Brown et al. '889 to reduce the friction of the drive mechanism and ultimately extend the machines life span.

8. Claims 13-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over York '814 in view of Ellerstein '942 in view of Orrell et al. '897, further in view of Boyle-Davis et al. '328. York '814 in view of Ellerstein '942 in view of Orrell et al. '897 lacks the specific details of the track assembly.

Boyle-Davis et al. '328 shows in Figures 1-5 a track assembly having a first (22) and a second (24) elongated flexible rail (col. 4, line 39 through col. 5, line 4) adapted to be attached to the work piece via a plurality of vacuum cup assemblies (26) releasably affixed at spaced intervals along each rail and a carriage assembly (30) moveably coupled to the track assembly and the work piece. In view of this teaching of Boyle-Davis et al. '328, it would have been obvious to one skilled in the art to mount the tool feed unit of York '814 in view of Ellerstein '942 in view of Orrell et al. '897 with the track assembly of Boyle-Davis et al. '328 to increase its versatility by more accurately positioning a drill machine on both simple and compound contoured-surfaces of various configurations with little effort by the user.

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Response to Arguments

9. Applicant's arguments filed 03 August 2006 have been fully considered but they are not persuasive.

Applicant's arguments are targeted towards the inclusion of the plurality of guide members and the at least one drive member being distributed around "a perimeter" of the first and second apertures as recited in independent claims 1,13 and 13. Ellerstein '942 clearly shows in Figure 1-4 a plurality of guide members (21) distributed concentrically around the perimeter of the first (26) and second (at 13) apertures.

Conclusion

10. Any inquiry concerning the content of this communication from the examiner should be directed to Michael W. Talbot, whose telephone number is 571-272-4481. The examiner's office hours are typically 8:30am until 5:00pm, Monday through Friday. The examiner's supervisor, Mrs. Monica S. Carter, may be reached at 571-272-4475.

In order to reduce pendency and avoid potential delays, group 3720 is encouraging FAXing of responses to Office Actions directly into the Group at FAX number 571-273-8300. This practice may be used for filling papers not requiring a fee. It may also be used for filing papers, which require a fee, by applicants who authorize charges to a USPTO deposit account. Please identify Examiner Michael W. Talbot of Art Unit 3722 at the top of your cover sheet.

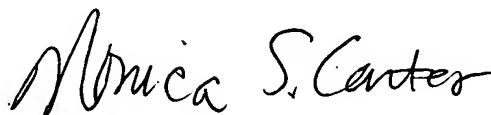
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would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



MWT
Examiner
31 October 2006



MONICA CARTER
SUPERVISORY PATENT EXAMINER